

A CASE OF PARALYSIS AGITANS CURED BY  
CENTRAL GALVANIZATION, SODIUM  
BROMIDE AND HYOSCYAMUS.

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THE following interesting case, interesting by reason of the rarity of cures obtained, occurred in the person of a Mrs. E——, aged 50, resident of New York City, and the superintendent of one of our charitable institutions. The disorder had come on gradually, as the result of domestic unhappiness and grief, and had finally culminated in a condition of subacute mania, complicating the case very much and very seriously. At first I declined to take such a case, and gave the ladies who were interested in the patient a very unfavorable prognosis concerning it. I was prevailed upon to say that I would treat her for one month, they agreeing to remove the patient at the expiration of that time if I could effect no improvement. At the time of admission the trembling was incessant and involved all the limbs. There were delusions of suspicion, and dread and fear of persecution,—in other words, marked mental disorder. There were hallucinations of sight and hearing. There would be exacerbations of

the tremblings, due to emotional disturbance. There was marked muscular rigidity and contraction, so that the head was thrown forward and fixed, and the trunk was also bent forward. Walking seemed very difficult, and also talking. The muscular force and the cutaneous sensibility were normal, so far as I could ascertain. There was marked tremulousness of the tongue when protruded. The trembling at first attacked one hand and arm, and gradually spread all over the body. I considered the case the most unfavorable one I had ever received for treatment, and did not hesitate to tell one or two of my professional friends that I regarded my patient as hopelessly incurable. I directed warm baths with cold effusion to the head at night, opened the bowels freely with a mercurial cathartic followed by salines, and then put my patient practically on a milk diet and secluded her from all society save that of her nurse, and directed the latter to administer, three times a day, drachm doses of sodium bromide and tincture of hyoscyamus. Fortunately I obtained a very good article of hyoscyamus, and I soon found to my surprise that my patient was improving, very much. Electricity in the form of central galvanization and also a bi-temporal current were employed. The mental excitement soon began to disappear, the muscular tremblings gradually subsided, very much in proportion as the mind became quiet, and at the end of one month I saw that my patient was rapidly improving. I accordingly allowed her to take moderate exercise in the open air and put her on a full diet. The rigidity and contraction of the muscles disappeared gradually, the gait becoming assured, the head coming up erect and also the trunk. The speech lost its tremulousness and the face assumed a much more bright and intelligent expression. At the end of the second month all mental disturbance had passed away, the mental facul-

ties remaining normal. I now discontinued the use of the sodium and hyoscyamus and also the central galvanization, substituting instead the induced current in the form of general faradization, using it as a nervous stimulant and tonic. I considered that by the constant current I had removed the nutritive defect in the central nervous system, improving the tone and nutrition not alone of the brain and cord, but also of all the deeper tissues of the body. A tonic containing quinine, phosphorus and strychnine was now ordered, and the patient's weight increased markedly during the third month of her stay here. At the expiration of the third month, she was discharged perfectly well, not a trace of trembling being visible in muscular action, speech or gait. The mental faculties were perfectly restored. My patient, against my advice, returned to her laborious post of duty, and has since remained perfectly well. I do not know that I should, in another case, get such a favorable result. I am afraid not.

My success in this case, however, warrants me in expressing the hope that such cases may have the benefit of long continued application of electricity, and my preference for the future would be hypodermic injection of  $\frac{1}{10}$  grain of the crystallized extract of hyoscyamine, giving drachm doses of the bromide of sodium in half a tumbler of water, three times a day, between meals. Prof. Charcot considers it probable that the morbid anatomy of many of the cases that go on to a fatal termination, consists of obliteration of the central canal of the cord by increase of its epithelial lining, overgrowth of the nuclei which surround the ependyma, and marked pigmentation of the nerve cells, principally those of Clarke's posterior vesicular columns. In my case, if the paralysis agitans had depended upon an atrophic condition of the spinal cord, pons varolii, crura or medulla oblongata, or, in other words, had depended on

organic changes, I do not think a cure could have been obtained. On the other hand, I am inclined to think that, if there was degeneration, due to the new formation of connective tissue comprcssing the cord and nerve structures, the constant current *perhaps*, by its catalytic effect could have had the power to remove such new formation, freeing the compressed nerve structure. My case, moreover, may have depended on congestion of the nervous substance or the membranes of the upper part of the medulla spinalis, oblongata, and pons, which had not gone on to sclerotic atrophy, and the galvanic current unquestionably would have relieved that condition permanently.

I not only had to combat disease of the motor centres, but also of the intellectual centres. The disease, I presume, commenced in the cervical region of the cord, since the arm was first affected and soon the corresponding one.

I considcred my case, however, probably to have been one in which there were weakness and irritability and instability of the molecular nerve structure of the nerve centres, owing, perhaps, to mal-nutrition, and that the disease was functional in character rather than organic. If so, then we may say that there are curable functional cases of paralysis agitans. My patient had not a rheumatic diathesis or any other morbid diathesis which could have disposed her to her disease. The case was to me exceedingly interesting, and I therefore ask the indulgence of those who may think I have devoted undue space to a single case.